In re Patent Application of:
DeSALVO ET AL.
Serial No. **09/724,256**
Filing Date: **11/28/2000**
_____/

In the Claims:

1. (ORIGINAL) An optically amplified receiver comprising:

an optical preamplifier for receiving an optical communications signal over a fiber optic communications line;

a bandpass filter operatively connected to said optical preamplifier for receiving the optical communications signal, selecting a single channel, and filtering out noise produced by the optical preamplifier;

a PIN detector for receiving the optical communications signal from said bandpass filter and converting the optical communications signal into an electrical communications signal; and

an amplifier circuit for amplifying the electrical communications signal.

2. (ORIGINAL) An optically amplified receiver according to Claim 1, wherein said band pass filter comprises a tunable bandpass filter.

3. (CURRENTLY AMENDED) An optically amplified receiver according to Claim 1, wherein said PIN ~~diode~~ detector is operative at about 3.3 volts.

4. (ORIGINAL) An optically amplified receiver according to Claim 1, and further comprising a laser for pumping the optical preamplifier and a laser driver interfaced with the laser used for pumping the optical preamplifier.

5. (ORIGINAL) An optically amplified receiver according to Claim 4, wherein said laser driver further comprises an injection laser diode, a current source control loop circuit for establishing a fixed current, and voltage switcher circuit connected to said injection diode and current source control loop circuit.

6. (ORIGINAL) An optically amplified receiver according to Claim 1, wherein said optical preamplifier is connected to a single wavelength optical communications line.

A1 cont

7. (ORIGINAL) An optically amplified receiver according to Claim 6, wherein said optical communications signal that is received over said optical communications line comprises a wavelength division multiplexed optical communications signal.

8. (ORIGINAL) An optically amplified receiver according to Claim 7, and further comprising a demultiplexer operatively connected to said preamplifier and band pass filter for demultiplexing the wavelength division multiplexed optical communications signal.

9. (ORIGINAL) An optically amplified receiver according to Claim 1, wherein said amplifier circuit comprises an electronic limiting amplifier for reshaping the electrical communication signal.

10. (ORIGINAL) An optically amplified receiver according to Claim 9, wherein said amplifier circuit comprises

a decision circuit and clock recovery circuit for retiming the electrical communication signal.

11. (ORIGINAL) An integrated optically amplified receiver comprising:

an optical preamplifier for receiving an optical communications signal over an optical communications line;

a bandpass filter operatively connected to said optical preamplifier for receiving an optical communications signal and filtering out noise produced by the optical preamplifier;

a PIN detector for receiving said optical communications signal from said optical preamplifier and converting the optical communications signal into an electrical communications signal;

an amplifier circuit for amplifying the electrical communications signal; and

one of either a housing or printer card assembly containing said optical preamplifier, PIN detector and amplifier circuit as an integrated receiver assembly.

12. (ORIGINAL) An optically amplified receiver according to Claim 11, wherein said bandpass filter comprises a tunable bandpass filter.

13. (CURRENTLY AMENDED) An optically amplified receiver according to Claim 11, wherein said PIN ~~diode~~ detector is operative at about 3.3 volts.

14. (ORIGINAL) An optically amplified receiver according to Claim 11, and further comprising a laser for

pumping the optical preamplifier and a laser driver interfaced with the laser used for pumping the optical preamplifier.

15. (ORIGINAL) An optically amplified receiver according to Claim 14, wherein said laser driver further comprises an injection laser diode, current source control loop circuit to establish a fixed current and voltage switcher circuit connected to said injection diode and current source control loop circuit.

16. (ORIGINAL) An optically amplified receiver according to Claim 12, wherein said optical preamplifier is connected to a single wavelength optical communications line.

17. (ORIGINAL) An optically amplified receiver according to Claim 16, wherein said optical communications signal that is received over said optical communications line comprises a wavelength division multiplexed optical communications signal.

18. (ORIGINAL) An optically amplified receiver according to Claim 17, and further comprising a demultiplexer operatively connected to said preamplifier for demultiplexing the wavelength division multiplexed optical communications signal.

19. (ORIGINAL) An optically amplified receiver according to Claim 12, wherein said amplifier circuit comprises an electronic limiting amplifier for reshaping the electrical communications signal.

20. (ORIGINAL) An optically amplified receiver according to Claim 19, wherein said amplifier circuit comprises a decision circuit and clock recovery circuit for retiming the electrical communication signal.

21. (ORIGINAL) An optically amplified receiver comprising:

a low noise, gain flattened, erbium doped optical preamplifier for receiving an optical communications signal over an optical communications line;

a bandpass filter operatively connected to said optical preamplifier for receiving the optical communications signal, selecting a single channel, and filtering out noise produced by the optical preamplifier;

a laser driver operatively connected to said optical preamplifier and bandpass filter for driving said preamplifier and comprising,

an injection laser diode;

a current source control loop circuit connected to said injection laser diode that establishes a fixed current through the injection laser diode; and

a voltage switcher circuit connected to said injection diode and current source control loop circuit, said voltage switcher circuit adapted to receive a fixed supply voltage and convert inductively the supply voltage down to a forward voltage to bias the laser diode and produce an optical output into the preamplifier having minimized power losses; and

an optical-to-electrical conversion circuit operatively

connected to said preamplifier for converting the optical communications signal into an electrical communication signal.

22. (ORIGINAL) An optically amplified receiver according to Claim 21, and further comprising one of either a housing or printed circuit card assembly containing said optical preamplifier, bandpass filer, laser driver and optical-to-electrical conversion circuit as an integral receiver assembly.

A' cont

23. (ORIGINAL) An optically amplified receiver according to Claim 21, wherein said bandpass filter comprises a tunable bandpass filter.

24. (ORIGINAL) An optically amplified receiver according to Claim 21, wherein said optical-to-electrical conversion circuit comprises a PIN detector.

25. (CURRENTLY AMENDED) An optically amplified receiver according to Claim 21, wherein said optical-to-electrical conversion circuit comprises an amplifier circuit connected to ~~said PIN~~ a PIN detector for amplifying said electrical communications signals.

26. (ORIGINAL) An optically amplified receiver according to Claim 21, wherein said optical communications signal received over said optical communications line comprises a wavelength division multiplexed signal.

27. (ORIGINAL) An optically amplified receiver comprising:

a low noise, gain flattened erbium doped optical preamplifier for receiving a wave division multiplexed optical signal over a single optical communications line;

a bandpass filter operatively connected to said optical preamplifier for receiving the optical signal, selecting a channel, and filtering out noise produced by the optical preamplifier;

a laser driver operatively connected to said optical preamplifier and bandpass filter and comprising,

an injection laser diode;

a current source control loop circuit connected to said injection laser diode that establishes a fixed current through the injection laser diode; and

a voltage switcher circuit connected to said injection diode and current source control loop circuit, said voltage switcher circuit adapted to receive a fixed supply voltage and convert inductively the supply voltage down to a forward voltage to bias the laser diode and produce an optical output into the preamplifier having minimized power losses;

a demultiplexer circuit operatively connected to said low noise, gain flattened erbium doped optical preamplifier for demulitiplexing the wave division multiplexed optical signal into demultiplexed optical signals;

a plurality of receiver channels for receiving the demultiplexed optical signals; and

an optical-to-electrical conversion circuit positioned within each receiver channel for converting the optical signals into electrical communication signals.

28. (ORIGINAL) An optically amplified receiver according to Claim 27, and further comprising one of either a housing or printed circuit card assembly containing said optical preamplifier, bandpass filter, laser driver, demultiplexer circuit and optical-to-electrical conversion circuit as an integral receiver assembly.

Al cancel.

29. (ORIGINAL) An optically amplified receiver according to Claim 28, wherein said bandpass filter comprises a tunable bandpass filter.

30. (ORIGINAL) An optically amplified receiver according to Claim 28, wherein said optical-to-electrical conversion circuit comprises a PIN detector.

31. (CURRENTLY AMENDED) An optically amplified receiver according to Claim 28, wherein said optical-to-electrical conversion circuit comprises an amplifier circuit connected to ~~said PIN~~ a PIN detector for amplifying any electrical communications signals.